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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,101	10/24/2001	Yaw S. Obeng	SILO-0005	8967

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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT

PAPER NUMBER

3723

DATE MAILED: 08/19/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

EC

Office Action Summary

Applicati n N .

10/000,101

Applicant(s)

OBENG ET AL.

Examiner

Anthony Ojini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3-6,8</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's cancellation of claims 7 and 9-27 in Paper No. 11 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anjur et al. (6,117,000) in view of Nakae et al. (4,446,254).

With respect to claims 1-4 and 6, Anjur et al. disclose a polishing pad comprising a polishing body having polyurethane thermoplastic resin particles having Shore A hardness ranging between 55 to about 98 (see col. 7, lines 26-32). Anjur et al. also disclose in column 2, lines 6-12, a closed cells polymer foams.

Anjur et al. fail to disclose a cross-linked polymer having a hardness ranging from about 34 shore A to about 60 Shore A.

Nakae et al. disclose a cross-linked polyolefin foam (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polishing pad of Anjur et al. to include a cross linked foam in view of Nakae et al. so as to increase elastic deformation during polishing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a cross-linked polymer

having a hardness ranging from about 34 shore A to about 60 Shore A, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 8, Anjur et al. teach in column 2, line 56, the polishing pad having an increased removal rates but fails to disclose wherein cross-linked polymer has a selectivity of Cu to Ta removal rates of greater than about 27:1. However, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anjur et al. (6,117,000) in view of Nakae et al. (4,446,254) as applied to claim 1 above, and further in view of Urbanavage et al (6,099,954).

With respect to claim 5, Anjur et al. fail to show wherein a polishing body includes a base pad and a cross-linked polymer forms a polishing surface located over the base pad. **Urbanavage et al.** disclose a polishing material having a base pad (10) and elastomeric polymer (11) forms a polishing surface located over the base pad (see fig.1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide polishing pad of Anjur et al. with a polishing body that includes a base pad and elastomeric polymer polishing surface that is located over the

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base pad in view of Urbanavage et al. so as to increase elastic deformation during polishing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dau et al., Berger et al., Sevilla et al. (6,062,968), Sevilla et al. (6,126,532) disclose a polishing pad having polymer layer surface respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 3590 for regular communications and 703 746 3277 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.



AO
August 13, 2003